Safety climate and driver safety at work: Integrating fleet management and OHS

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Abstract

Road accidents are now the most common form of work-related death, injury and absence from work in Australia. Considering its social and financial impact, interest has grown in the occupational health and safety (OHS) practices supporting safety for employees engaged in work-related driving. In this paper we will be utilising multilevel analysis to identify key organizational and individual factors that influence attitudes towards driving a work vehicle. The study will be involving work-related drivers, fleet coordinators and senior level management within the Queensland public sector. The framework will not only integrate driver safety within the organisational safety management literature, but it will provide a practical guide to the management of work-related drivers within the broader OHS context.

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Road accidents are now the most common form of work-related death, injury and absence from work in Australia (Haworth, Tingvall & Kowadlo, 2000). The annual cost of road traffic injury is estimated to be over AU$500 million and related property damage increases this figure to over AU$1 billion (Travelsafe34, 2002). In Queensland over the period 2000 to 2001, 97 people were killed in work-related road crashes, and 5,917 people sustained permanent or severe injury (Queensland Employee Injury /Disease Data, 2002). These figures provide a strong social and financial governance argument for increasing attention on factors contributing to work-related road accidents.

The above figures suggest driving safety should be an important concern for all organizations where employees are engaged in work-related driving. Work-related drivers have been defined as those who drive at least once per week for work-related purposes (Murray, Newnam, Watson, Davey & Schonfeld, 2003). Recently, interest has grown in the OHS practices that support safety for employees engaged in work-related driving (Murray et al., 2003). However, the management of driver safety has not been well integrated within a broader health and safety context (Haworth et al., 2000). In order that driver safety can be dealt with through OHS practices, it is first necessary to understand what organizational factors actually influence driver perceptions and behaviour.

In this paper we develop a model of work-related driving safety that identifies key organizational and individual factors that influence driving behaviour. The framework is both a conceptual guide for the integration of driver safety into organizational OHS management, and a practical guide for the management of work-related driving. A particular focus of the framework is the role of safety climate. That is, the shared perception of employees that safety is an important and valued part of the work environment (Zohar, 1980; Griffin & Neal,

2001). We describe the application of the safety framework in a case study involving the implementation of a state-wide fleet safety management package across the public sector.

Theoretical Framework

Below we present the overall theoretical model that guides our discussion of driver safety. Figure 1 identifies three broad types of influence on work-related driving behaviour: safety climate, job characteristics, and individual differences. We explore each component of the model to identify the range of contextual, job-related and individual factors that need to be taken into account in organizational strategies around work-related driving. No previous study has systematically examined the way these processes combine to influence work-related driving.

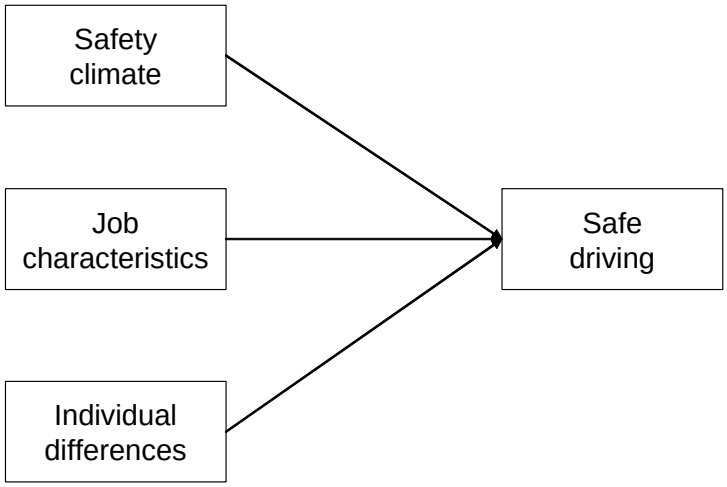

Figure 1: Model of factors influencing work-related driving safety

Safety climate

In recent years, safety climate has been identified as an important indicator of health and safety issues within the workplace (Neal, Griffin, & Hart, 2000; Zohar, 2000). The influence of safety climate on task performance and injury rates has been established in a number of studies (e.g., Griffin & Neal, 2000; Hoffman & Stetzer, 1996; Zohar, 2002b; Zohar & Luria, 2003). Although the importance of safety climate/culture is well-recognised in the literature on occupational safety, the impact of safety climate on work-related driving behaviour has not been examined.

There are indications within the literature on work-related driving which suggest that safety climate is likely to have an impact on safe driving behaviour. For example, Newnam et al. (2002) found that employees who reported better fleet safety practices and procedures were more likely to report safer driving behaviour in a work vehicle. Stewart-Bogle (1999) described potential savings in workers compensation data as a result of management acknowledging their legal responsibility in work-related driving. This type of behaviour from management is integral to the development of a safety climate and therefore suggests that safety climate is likely to be related to driving behaviour.

As substantial evidence has supported the influence of climate on safety behaviour, and there is evidence to suggest it will also be relevant for work-related driving behaviour, this study will be adopting a measure of safety perceptions of the work environment within a sample of work-related drivers.

Job characteristics

Job characteristics are also known to have an impact on safety perceptions and outcomes within organisations. The job characteristics of interest in this paper are role clarity and workload. In the organisational literature work overload has been defined as excessive work demands that in turn effects work performance (Parker, Axtell, & Turner, 2001). Work overload has been found to be significantly related to unsafe behaviours (Hoffman & Stetzer, 1996; Parker et al., 2001). Role conflict refers to the degree of clarity relating to job roles within the organisation (Shoemaker, 1999). Research has found links between role clarity and employees well being and safety performance (Bray & Brawley, 2002; Parker et al., 2001).

While work load and role clarity are frequently found to be predictors of work performance in the organisational literature (Miller, Griffin & Hart, 1999), they have also been implicated as factors influencing work-related driving safety. Workload has been found to be a variable influencing the safe driving behaviour of work-related drivers (Downs, Keigan, Maycock & Grayson, 1999). Traditionally, it has been believed that work-related

drivers have higher crash rates because they are exposed to time pressure which in turn results in elevated driving speeds (Grayson, 1999).

In regards to role clarity, past research has indicated that drivers are not fully aware of their responsibilities when driving a work vehicle. In particular, attention has been focused on vehicle ownership. Although there is no empirical evidence to support this claim, there is a suggestion that drivers may take less care with work-related vehicles because the vehicles are not owned by the driver, and that there is little or no financial burden for the driver in the case of damage. Therefore, the drivers may take more risks and have a less responsible attitude than if it was their own vehicle (Collingwood, 1997).

Job characteristics such as workload and role clarity have been identified as important dimensions to understanding individuals' perceptions of the general organisational climate (Miller et al., 1999). Considering that safety climate refers to individuals' perceptions of a component of the general organisational climate, it could be assumed that work load and role clarity may also be important dimensions in the valuation of safety climate. Research has also found a link between self-efficacy and workload and role clarity (Jex & Bliese, 1999; Jex, Bliese, Buzzell & Primeau, 2001).

Individual differences – self-efficacy

A wide range of individual differences have been linked to safety behaviour ranging from stable dispositions such as neuroticism (eg., Sutherland, 1991) to more transitory mood states (eg., Brewin, 1984). In this paper, we focus on the role of self-efficacy which is the belief in one's ability to perform a specific task through successfully executing the behaviour to produce the desired outcome (Bandura, 1977). In addition to research indicating a link between self efficacy and work performance in the organisational behaviour literature (Gist & Mitchell, 1992; Stajkovic & Luthan, 1998), a relationship has also been found between self efficacy and perceptions of work load and role clarity (Jex & Bliese, 1999; Jex et al., 2001). It is believed that stressors, such as role ambiguity and work overload, within the work

environment are less detrimental when employees have more positive self efficacy (Jex & Bliese, 1999). In support, Jex et al. (2001) found that self efficacy moderated the relationship between role clarity and workload on psychological strain within the workplace.

Case study

The theoretical framework described above is being investigated in a collaborative project to improve fleet safety in the Queensland Public Sector. This project involves a fleet management agency, four collaborating government agencies, and university partners from the disciplines of business and psychology as well as a specialist centre in road safety.

Fleet management agency

The main collaborating partner is the government agency responsible for vehicle leasing and fleet management services. The fleet management agency has implemented fleet safety management systems across a range of client organisations within the Queensland government. The package of fleet safety initiatives include (1) a driver training program, (2) an information campaign in the form of a monthly newsletter, (3) an incentive scheme designed to adjust the premium by giving a discount or adding a loading to the base insurance premium, and (4) a client access computerised system which is a diagnostic database which can provide fleet managers/coordinators with the capacity to interrogate their organisational fleet safety performance records to identify crash precipitating factors and areas for intervention.

Collaborating agencies

The fleet agency manages nearly 13, 000 vehicles which are supplied to 1, 200 government and government funded organisations. Due to logistical considerations, only four government organisations were included in the sample for this case study. These government organisations span a range of different industries, from healthcare, to education, to construction. These agencies have the largest leasing accounts with the fleet management agency.

Fleet safety initiatives

The fleet safety initiatives, identified above are disseminated to the client organisations who lease their vehicles from the fleet management agency. The safety initiatives are aimed at improving fleet safety outcomes by (a) influencing individual driver attitudes, knowledge, skills and behaviour and (b) encouraging and supporting fleet coordinators within the client organisations to monitor the safety performance of drivers and vehicles within their organisations. Ultimately, it is hoped that by monitoring safety performance it will be possible to identify crash precipitating factors and intervening to improve organisational fleet safety outcomes.

We hypothesized that client organisations who adopt these fleet safety initiatives to improve their fleet safety outcomes were likely to be perceived as having a strong safety climate. For example, if these safety initiatives are adopted by the fleet managers and communicated to drivers of work vehicles, this will more likely increase the perception of safety climate within the government agencies.

Measurement and analysis

To test the framework and evaluate the safety initiatives, a survey measuring the variables in the model will be distributed to drivers of work-related vehicles, employees who coordinate the vehicles, and senior level managers within the government agencies. Different surveys have been developed for each group.

The driver survey examines perceptions of safety climate, workload, role clarity, and self-efficacy, as well as providing self-report data on driving accidents at work. The survey also assesses drivers' attitudes towards traffic safety when driving a work vehicle. The survey developed for employees who coordinate work vehicles assesses perceptions of safety climate, workload, role clarity, and self-efficacy. The survey for co-ordinators also assesses attitudes towards traffic safety as we were interested in exploring the possibility that their attitudes may influence their management behaviour when interacting with drivers of work

vehicles, and perhaps also their perceptions of safety climate. The survey developed for managers also assesses perceptions of safety climate, workload, role clarity and self-efficacy. The aim of this survey is to explore perceptions of safety climate throughout the government agency.

Preliminary Results

The framework developed came out of a preliminary study that was commissioned to investigate the efficacy of the safety initiatives, described previously. This study led to the identification of the key variables identified in the framework described in this study and the development of a guide for driver safety behaviour that is supported by existing research findings.

Prior to designing the survey to investigate the efficacy of the safety initiatives, we collected qualitative data within a sample of eight government agencies to obtain preliminary data on (a) the awareness of, or attention given to, work-related driving safety as a safety issue, (b) the importance attached to workplace driving in general and some of the meanings attached to workplace driving and (c) the ways in which managers and drivers talk about workplace driving.

Focus groups were conducted with a sample of managers and drivers. Two of the focus groups (one manager and one driver group) were held in the Brisbane Central Business District. The remaining two focus groups (one manager and one driver group) were held in a rural town south-west Queensland. To provide some parameters for the focus group discussions for both fleet managers and drivers, some of the questions used were based on concepts from Ajzen & Fishbein's (1977) Theory of Planned Behaviour (TPB).

Overall, the focus groups findings indicated themes such as lack of integration of OH&S management and driver safety, work demands influencing drivers' safety, and lack of clarity in the job roles relating to the management of work-related driving safety and safe driving practices. A summary of the results have been provided.

The results found in the drivers and fleet managers groups that work-related driving was not been effectively managed as part of an OH&S regulatory framework.

"Under OH&S, you are supposed to do a familiarisation with everyone who comes into your workplace, but we don't do it for vehicles"

In particular, lack of familiarity with the work vehicle was discussed as a major issue that did not help safe driving in a work vehicle.

"Some people take cars out of the motor pools and they can't even get them going because some of them have got foot brakes like hand brakes and they don't know where they are"

The manager focus groups found similar safety climate issues such as lack of management responsibility and accountability for work-related driving safety. For example, fleet managers believed that it was not their responsibility to be accountable for unsafe driving in a work vehicle.

"You can't control how a specific person or particular person treats a particular vehicle; a leopard can't change its spots"…

In particular, responsibilities of the job were more likely to involve performance reporting of budgetary issues, rather than responsibilities relating to safety of drivers.

"Basically the job runs to the bottom line, it is the dollars"…" everything is fine if you have the right vehicles in the right places."

These findings suggest that safety climate related to work-related driving is not considered a priority within the participating government agencies. Furthermore, there appears to be a lack of clarity in the job role relating to work-related driving safety, and also limited self efficacy over controlling driver behaviour.

Another example of the lack of priority given to work-related driving safety is the importance placed on productivity, rather than safe driving practices. For example, time demands were frequently mentioned as a factor not assisting safe driving in a work vehicle:

"When you are busy you're exceeding speed limits, pushing everything to the limit, and so you are trying to drive as well as other things."

These findings may suggest that the organisations surveyed may not have a significant influence in discouraging speeding, or managing the workload for their employees. Alternatively, the driving tasks of the organisations may be inherently stressful or fatiguing. Thus, it would be reasonable to assume that workload may be a contributing factor in work-related road crashes.

The preliminary group data indicated that the climate for safety within these government departments does not receive adequate attention. In particular, the results confirmed the inclusion of safety climate, job characteristic and individual variables within the framework described in this study.

Discussion

Preliminary results indicate that perceptions of safety climate within the government agencies may not be very strong. As stated previously, the intention of the present research is to explore the safety climate perceptions of 4 government agencies, and extend this research by integrating driver safety within the organisational safety management literature. The research will also provides a practical guide for managing work-related driving within the broader OHS context.

Little empirical research has investigated work-related driving, and the factors contributing to crash involvement. The collaborative project we describe in this paper seeks to understand the crash precipitating factors, the most effective strategy will be to (1) examine the safety climate within organisations with work-related drivers (2) investigate the organisational and individual factors within the work environment that influence perceptions towards safety climate. As past research has found links between safety climate and safety outcomes (Hoffman & Stetzer, 1996), we argue that the framework will provide a practical guide to decrease the number of work-related crashes by gaining an understanding of the key

organisational and individual factors within the work environment influencing perceptions towards safety climate.

To conclude, we have described the application of a safety framework in a case study involving the implementation of a fleet safety management package. Preliminary results have not only confirmed the role of the job and individual characteristics included in the framework, the data indicated that fleet safety is not considered a priority in a number of government agencies. However, it should be noted that the organisations included in the preliminary study were large government agencies, and may not be representative of the population. Despite this limitation, the results obtained in this study assisted in the development of the theoretical framework designed as a guide to the management of work-related drivers within the broader health and safety context. The goal of this research is to enhance safety climate perceptions and ultimately influence safety outcomes in organisations reliant on work-related driving.

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